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ABSTRACT

Technology can be a tremendous asset in preparing professionals to work with young children and a number of technological applications can serve to enhance early childhood teacher preparation. Among these applications are: slide show presentations; use of the internet; introduction of students to software to assist in the development of child-centered curriculums; and practicum opportunities to provide students with experience in working with young children on computers. Teacher educators need to continue to strive to find increasingly effective ways to help their students become more comfortable and proficient in working with technology in early childhood classrooms, from preschool through the primary grades. (Includes a table of website addresses of use to early childhood professionals.) (LBT)

Running head: TECHNOLOGY IN EARLY CHILDHOOD TEACHER PREPARATION

Using Technology to Enhance Early Childhood Teacher Preparation

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Abstract

Technology can be a tremendous asset in preparing professionals to work with young children. There are a number of technological applications that can serve to enhance Early Childhood Teacher preparation. These applications include using slide show presentations, use of the internet, introducing students to software that can help in the development of child-centered curriculum, and organizing practicum opportunities that provide students with experience in working with young children on computers. Teacher educators need to continue to strive to find increasingly effective ways to help their students become more comfortable and proficient in working with technology in early childhood classrooms, from preschool through the primary grades. This article provides information on using technology to enhance early childhood courses, as well as ideas on how to help future and practicing professionals make use of technology in their classrooms.

Using Technology to Enhance Early Childhood Teacher Preparation

Technology is a powerful tool that can strengthen Early Childhood Teacher Preparation Programs. Future teachers, as well as those currently working in the field, need to feel comfortable with technology if they are to effectively implement it into their programs. Technology is an important part of our lives and will play an even larger role in the lives of young children.

Early childhood teacher educators need to be familiar with some of the latest technology in order to make use of the advantages it can bring to their teaching. They also need to be able to pass on skills that future teachers will need in order to help young students work with computers and other technology. The National Association for the Education of Young Children issued a position statement on "Technology and Young Children - Ages Three through Eight" in 1996. In this document they state that "As early childhood educators become active participants in a technological world, they need in-depth training and ongoing support to be adequately prepared to make decisions about technology and to support its effective use in learning environments for children (NAEYC, 1996, p. 15)." This article will outline some of the ways Early Childhood Teacher Educators can provide this training and support for preservice and inservice teachers, as well as making use of current technology in their own classes.

Using Technology to Present Information

One of the easiest ways teacher educators can begin implementing some of the new technology into the classroom is with presentation software such as Microsoft

Powerpoint. This software allows instructors to make slide shows that can be shown easily on a screen with the use of a computer, an LCD panel and an overhead projector. Lap top computers, combined with LCD panels and overhead projectors make these slide shows more portable, although they can be shown using a standard computer on a table or cart. "Smart Classrooms" which are already equipped with computers and projectors make these slide show presentations even easier to show. With presentation software, instructors can incorporate digital photographs, music or other sound, and short digital video segments directly into their presentations. This broadens the possibilities of information that can be shared with students, allowing them to hear and visualize concepts or situations that were formerly limited.

Even without the use of a computer and LCD panel in the classroom, the presentation software can help to make overhead transparencies more professionally. The overheads can be done in either black and white or in color, depending on the type of printer available. Templates available through the presentation software aid in the development of clear, easy to read overhead transparencies. These transparencies can later be transformed into slide shows for the computer with little effort.

Using Technology to enhance communication

E-mail

Advances in technology have skyrocketed us into worlds of communication that could have only been dreamed about years ago. One of the first communication tools that can be employed in early childhood courses is e-mail. Many students who have been doing work on campus will already have e-mail accounts, but others, especially those who have not had much exposure to computers or those working in

rural schools that are not "on-line" yet, may not have them. Most college campuses have departments or services that will help students obtain e-mail accounts. Once students have an e-mail address they can begin sending and receiving mail. As with most other learning, students will increase their competency and comfort in using e-mail with actual hands-on practice. One way to encourage students to use e-mail is to require students to e-mail some of their assignments to their instructor. Discussion groups can be formed where students are asked to e-mail each other with responses to questions or topics. The instructor can then read these discussions, learning more about each student's understanding of the material. Students can also e-mail the instructor directly with any questions. This may encourage students who are reticent in class to ask more questions.

E-mail is especially useful in long-distance courses where students do not have contact with the professor in the classroom. E-mail enables the students and instructor to communicate with each other without the delay of regular mail or the difficulty of finding convenient or available times to be able to talk by phone. Students in telecourses or courses offered over a long distance network can be required to e-mail assignments once a week, including any questions or comments they may have. Professors can e-mail comments about the assignments back to the individual students, so they can receive feedback as soon as the assignments have been read. Students can also use e-mail to communicate with other students and early childhood professionals around the world.

More Connections with the Global Community

The World Wide Web has certainly opened the door to learn more about early childhood from all over the world. As with most technology, students will come to

early childhood courses with a variety of backgrounds in using the web. Some students will have spent a great deal of time "surfing the web" while others will have limited exposure. Early Childhood courses can provide students with opportunities to discover the many resources available on the web to teachers of young children. A good starting point for utilizing the web are the websites of some of the early childhood professional organizations. There are a number of other websites that provide a wealth of information on early childhood issues and many have links to other sites of interest (see Table 1).

Insert Table 1 here

Students can also learn about and explore web sites that might be appropriate for primary age children. Exploring these sites is also a good way to introduce discussions about the use of the web for young children and how to monitor its use.

Knowledge of Quality Software and Software Evaluation

One of the most common ways early childhood teachers will be using technology with young children will involve using children's software. It is critical that early childhood professionals know developmentally appropriate software that they can use with children. Appropriate software can help to scaffold children in their Zone of Proximal Development (Haugland & Wright, 1997), taking them from their current level of performance to the next level. In a study conducted by Susan Haugland, the effects of developmental vs. nondevelopmental software were compared. Haugland's study found that classes with exposure to computers had greater gains in self esteem. Children who used developmental software with computers had significant gains in intelligence, non-verbal skills, structural knowledge, long-term memory, and complex manual dexterity. Children who used nondevelopmental software showed significant

losses in creativity - a drop in 50% that was not true of children who had no computer use (Haugland, 1992). This study demonstrates the critical need for early childhood professionals to know good quality, developmentally appropriate software to use with young children. Knowing which software is developmentally appropriate can be extremely difficult to determine, however. Haugland and Wright (1997) report that only 20% of children's software today can be considered developmentally appropriate. Many awards given to software are determined by groups who are not familiar with the concept of developmental appropriateness and may be judged on other factors. Awards by themselves are not always indicative of developmental appropriateness. It is important for professionals to know where they can find lists of appropriate software. NAEYC's publication, Young Children: Active Learners in a Technological Age (1994), lists several software evaluation systems, along with phone numbers that can be contacted for additional information, such as the Haugland/Shade Developmental Scale (314-651-2952). These systems review software according to their philosophies about how children learn.

One of the most helpful resources for identifying Developmental Software is the book, *Young Children and Technology: A world of Discovery* by Susan Haugland and June Wright (1997). This book is a tremendous addition to the field of Early Education. It has an entire section containing reviews of software that have been found to be developmentally appropriate using the Haugland/Shade Software Evaluation System. It provides both practicing teachers and education students with the latest recommended software to enhance their programs in all curricular areas. Their accompanying website, http://ECONOMICS.SEMO.EDU/kidscomp/Index.htm provides additional software

titles that have been recently released so that professionals can stay informed of the most current, highly rated programs.

The book also provides early childhood professionals with knowledge of how to use the Haugland/Shade Software Evaluation System so they can evaluate software themselves. This software evaluation system looks at: age appropriateness; child control of the software; clear instructions; expanding complexity; independence; nonviolence; process orientation (discovery learning vs. skill driven); using real world models; having quality technical features; and diversity issues, including gender and role equity, multicultural features, age ability, and family lifestyle.

Practicum Experiences

One way students can learn a great deal about how to use technology in the classroom is by having the opportunity to use it with young children. Technology components can be built into existing practicum experiences. Students can be asked to spend a certain amount of hours during their practicum or internship using computers with young children. A short "Technology Practicum" could also be incorporated into existing early childhood courses. One of the course requirements could include students spending a certain number of hours working on computers in the schools with young children. Many schools would welcome the assistance of college students to work with children on computers, writing stories or working with other educational software. Agreements and schedules can be set up ahead of time with cooperating schools who are interested in this type of joint venture.

There are a number of ways that early childhood teacher educators can make use of technology in their classrooms and help their students become more

comfortable with its use. The more practical, hands-on experiences students can have with the computers and software, the more effective this instruction will be.

References

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Haugland, S.W., & Wright, J.L. (1997). Young children and technology: A world of Discovery. Boston, MA: Allyn and Bacon.

NAEYC. (1996). NAEYC Position Statement: Technology and young children-Ages three through eight. Young Children, 51, 11-16.

Wright, J., & Shade, D. (Eds.) (1994). Young children: Active learners in a technological age. Washington, DC: NAEYC.

Table 1. Websites of Interest to Early Childhood Professionals

Name	Website Address
The National Association for the Education of Young Children	http://www.naeyc.org
The Division for Early Childhood of the Council for Exceptional Children	http://www.dec-sped.org
The Children's Defense Fund	http://www.childrensdefense.org
The Association for Childhood Education International	http://www.udel.edu/bateman/acei/index.html
Zero to Three	http://www.zerotothree.org/index.html
Family Village	http://www.familyvillage.wisc.edu
Stand for Children	http://www.stand.org
Partnership for Family Involvement in Education	http://www.ed.gov/PFIE/index.html
Father's Resource Center	http://www.parentsplace.com/readroom/frc/index.html
National Early Childhood Technical Assistance System	http://www.nectas.unc.edu
National Network for Childcare	http://www.nncc.org/homepage.html

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Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

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